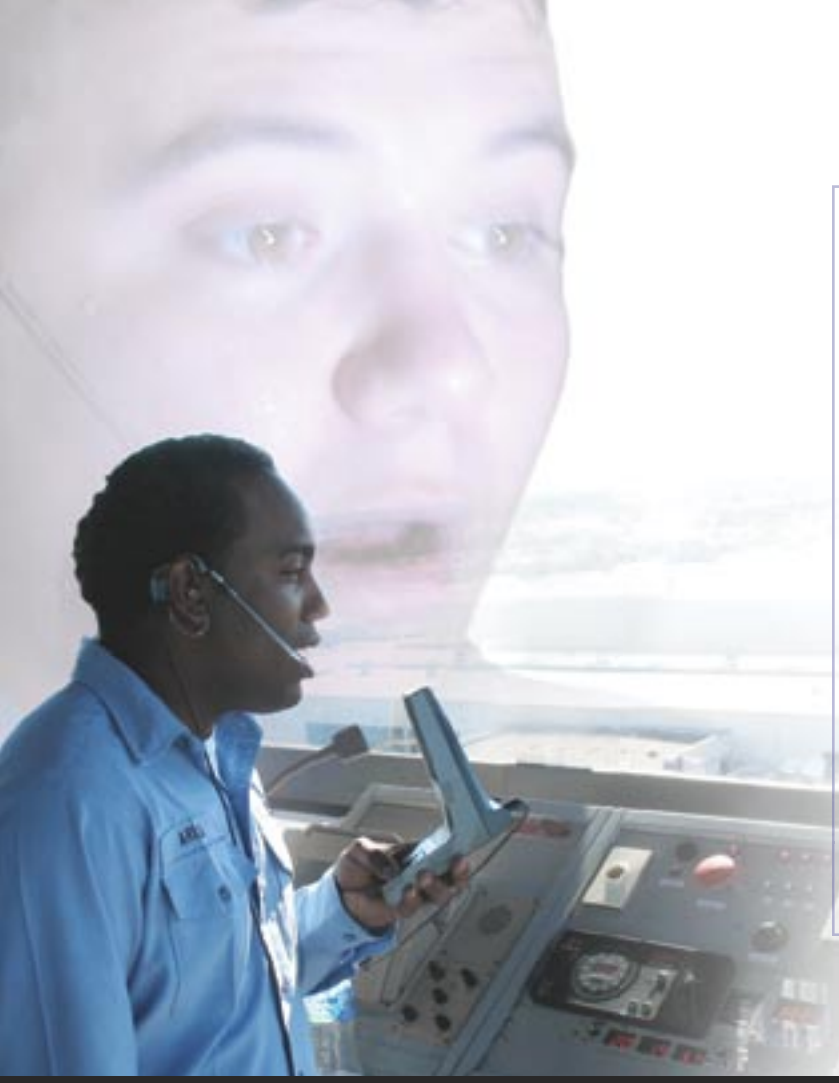

*A **runway incursion** is "Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing or take-off of aircraft."*
—Federal Aviation Administration (FAA) and International Civil Aviation Organization (ICAO)

What's on the Runway?

By ACCS(AW/SW) Fredda Bryan

"I can't believe that just happened."

If you've ever been on a microphone, whether aircrew or controller, you've said that phrase.

Runway incursions continue to be the No. 1 reported hazrep (hazard report) for the Navy and Marine Corps—and the situation isn't improving. Solving this problem may not be as easy as 1-2-3, but it can be as simple as SOP (standard operating procedures). Disregard SOPs and a hazardous situation or mishap usually results.

Analyzing the causes of any runway incursion is similar to peeling away the skin of an onion, with the layers of skin representing the casual factors. Failure to adhere to procedures-directions-instructions, poor or incomplete communications, poor coordination, complacency, bad scanning techniques, and failure to adequately train or supervise personnel are the typical causal factors cited in reports. The most common factor, however, is the loss of situational awareness, whether it's in the tower cab, radar room, the cockpit, or while operating on the airfield. Only when your perception matches reality are you situationally aware.

The most common incursions are crossing a runway without permission, insufficient separation, landing or departing without a clearance, and descending or climb-

ing to an altitude not assigned. Sometimes an incursion is the result of "I just plain forgot about you." When you peel back the onion skins, the common thread in most incursions is the human-performance factor (HPF).

If we get to the point we become complacent in our jobs, then we are the problem, not the solution. If I were to take a hazrep from 20 years ago and compare it to one today, the scenarios would be nearly identical. Does that mean we are not progressing toward a safer aviation community? No, it means with high-tempo operations, the risks continue to be high. Management teams need to closely watch everyone's performance to catch bad habits and correct them before a hazardous situation occurs. Every time a pilot gets in a cockpit or an air traffic controller puts on a headset, they automatically should shift to a mindset of "expect the unexpected." Is it too pessimistic of me to think that way? Well, I have 20 years of experience, and I have observed many situations when instructions were not followed. In each situation, I knew that what I did or didn't do could result in a mishap or collision.

Respect for each other's jobs cuts both ways. From a controller's point of view, if you are working the position and going along with the scenario, then you most likely are behind the power curve. You have to expect the unexpected and have a plan A, B, and at times C. From the pilot's perspective, never assume what you thought you heard is what you expected to hear. If you are uncertain with the instructions given to you, check again, and if necessary, double-check with the controller. Better safe than sorry is not a myth.

ACCS Bryan is the air-traffic-control analyst, Naval Safety Center.

Runway Incursion Scenarios

Our Safety Center air-traffic-control analyst offers these two runway-incursion scenarios to reinforce the value of crew resource management. These examples are taken from the WESS data base and are typical scenarios that can be used for training. Whether the focus is on communication, assertiveness or situational awareness, a team effort is necessary to reduce and eliminate runway incursions.

Scenario No.1

Aircraft No.1 (FA-18) was put in position-and-hold on runway 13L. Aircraft No.2 reported the numbers runway 13L for the overhead, while aircraft No.2 was instructed to break. Aircraft No.2 then reported the left 180 with the gear, and was given clearance to land, while aircraft No.1 still was in position-and-hold. Aircraft No.1 radioed he still was in position-and-hold. Aircraft No.1 then was cleared for takeoff. A traffic call was issued to aircraft No.2 on the FA-18 departing the runway. Aircraft No.1 cleared the deck and switched frequencies to approach and aircraft No.2 landed on runway 13L.

Human performance factors:

- Tower controllers lost situational awareness.

• The controller forgot about the aircraft in position-and-hold.

• The facility watch supervisor and tower supervisor did not have proper facility staffing per the facility manual.

• They failed to identify or recognize a hazardous or unsafe deck condition.

Commander's comments:

Human error and loss of situational awareness are risks we must remain alert for on a daily basis. Noncompliance with governing regulations and instructions are not acceptable and shall not be tolerated. A high level of awareness and teamwork from the pilots saved a potentially catastrophic mishap.

Scenario No. 2:

During an end-of-block contact flight with the SNFO (student naval flight officer) in the front seat and the instructor pilot (IP) in the back seat, aircraft No.1 received clearance to position-and-hold on runway 7R. The SNFO repeated back clearance to position-and-hold, which was confirmed by tower tapes. Tower gave clearance to position-and-hold because of a previous aircraft that had landed on 7L and had been cleared to taxi across runway 7R at the departure end. Aircraft No.1 completed lineup checks, and then made a normal takeoff with the SNFO at the controls but without receiving clearance to takeoff from the tower. Once tower realized the hazardous situation, they immediately cancelled their takeoff clearance. But, the aircraft already had reached rotation speed. The IP took control of the aircraft and noticed a T-39 already had cleared runway 7R. With no other obstacles in its path, the IP deemed it safer to continue the takeoff than to execute a high-speed abort.

Human performance factors:

• IP allowed the SNFO to take off without clearance from the tower.

• Aircrew failed to properly supervise the flight.

• Failure of attention: distraction, channelized and fixation.

• Poor communication.

Commander's comments:

No matter how old you are or how many hours you have, the basics still apply. Expect the unexpected. When controllers issue specific instructions and the pilot reads back verbatim what those instructions are, we don't expect the pilot to do the complete opposite, do we?

WESS contains hundreds of hazreps that ASOs, ATCFOs and training branch manager's can use as training resources for aircrews and air traffic controllers. Use these scenarios as a positive training tool for your personnel. Visit WESS on our Naval Safety Center website at: http://www.safetycenter.navy.mil/wess/.